

TRANSLATION

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>H2245-01</b>	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. <b>PCT/JP2004/017146</b>	International filing date ( <i>day/month/year</i> ) <b>18.11.2004</b>	Priority date ( <i>day/month/year</i> ) <b>26.12.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>G09F9/30, G02F1/1368, H05B33/26</b>		
Applicant <b>MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.</b>		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>7</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <u>1</u> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>																										
<p>4. This report contains indications relating to the following items:</p> <table><tr><td><input checked="" type="checkbox"/></td><td>Box No. I</td><td>Basis of the report</td></tr><tr><td><input type="checkbox"/></td><td>Box No. II</td><td>Priority</td></tr><tr><td><input type="checkbox"/></td><td>Box No. III</td><td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td></tr><tr><td><input type="checkbox"/></td><td>Box No. IV</td><td>Lack of unity of invention</td></tr><tr><td><input checked="" type="checkbox"/></td><td>Box No. V</td><td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VI</td><td>Certain documents cited</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VII</td><td>Certain defects in the international application</td></tr><tr><td><input checked="" type="checkbox"/></td><td>Box No. VIII</td><td>Certain observations on the international application</td></tr></table>			<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand	Date of completion of this report																									
Name and mailing address of the IPEA/JP	Authorized officer																									
Facsimile No.	Telephone No.																									

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. I

Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-10 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. 3-9 \_\_\_\_\_ as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* 1 \_\_\_\_\_ received by this Authority on 16.12.2005
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- sheets Fig. 1-4 \_\_\_\_\_ as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☒ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☒ the claims, nos. 2 \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement																					
1. Statement	<table><tbody><tr><td rowspan="2">Novelty (N)</td><td>Claims</td><td><u>1, 3-9</u></td><td>YES</td></tr><tr><td>Claims</td><td><u></u></td><td>NO</td></tr><tr><td rowspan="2">Inventive step (IS)</td><td>Claims</td><td><u></u></td><td>YES</td></tr><tr><td>Claims</td><td><u>1, 3-9</u></td><td>NO</td></tr><tr><td rowspan="2">Industrial applicability (IA)</td><td>Claims</td><td><u>1, 3-9</u></td><td>YES</td></tr><tr><td>Claims</td><td><u></u></td><td>NO</td></tr></tbody></table>	Novelty (N)	Claims	<u>1, 3-9</u>	YES	Claims	<u></u>	NO	Inventive step (IS)	Claims	<u></u>	YES	Claims	<u>1, 3-9</u>	NO	Industrial applicability (IA)	Claims	<u>1, 3-9</u>	YES	Claims	<u></u>	NO
Novelty (N)	Claims		<u>1, 3-9</u>	YES																		
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Inventive step (IS)	Claims	<u></u>	YES																			
	Claims	<u>1, 3-9</u>	NO																			
Industrial applicability (IA)	Claims	<u>1, 3-9</u>	YES																			
	Claims	<u></u>	NO																			
2. Citations and explanations (Rule 70.7)	<p>Document 1: JP 2003-316292 A</p> <p>Document 2: JP 2003-101031 A</p> <p>Document 3: JP 2003-51386 A</p> <p>Document 4: JP 2003-115456 A</p> <p>Document 5: JP 10-321369 A</p> <p>Claim 1</p> <p>Documents 1 and 2 set forth display devices, wherein a display element part and a thin-film transistor part are laminated in that order onto a substrate, and the picture electrode of the display element part also acts as the drain electrode of the thin-film transistor.</p> <p>In these display devices, it would be easy for a person skilled in the art to merely reverse the order of lamination of the display element part and the thin-film transistor part, and laminate the thin-film transistor part and the display element part in this order on the substrate. (Documents 1 and 2 do not contain disclosure hindering the reversal of the order of lamination of the display element part and the thin-film transistor part.)</p> <p>In the thin-film transistors set forth in documents 1 and 2, the source electrode is formed against the picture electrode with an active layer interposed</p>																					

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

therebetween in the thickness direction.

Moreover, documents 1 and 2 set forth a feature wherein the picture electrode and the source electrode have the same surface area, and the picture electrode completely covers the active layer. In contrast, in the invention of this application, the picture electrode has a larger surface area than the source electrode, and although the picture electrode completely covers the active layer, comparing the surface area of the picture electrode and the surface area of the source electrode, constituting the surface area of the picture electrode to be greater than the surface area of the source electrode is not acknowledged to offer a special effect. That is to say, the effect asserted by the applicant, wherein the penetration of oxygen and/or moisture to the organic semiconductor layer is prevented, is an effect offered by the configuration wherein the surface area of the picture electrode is independently large, and the picture electrode completely covers the active layer, and is not a result of a configuration wherein the surface area of the picture electrode is larger than the surface area of the source electrode.

That being the case, the difference between the configuration set forth in documents 1 and 2, wherein the picture electrode and the source electrode have the same surface area, and the feature set forth in this application, wherein the picture electrode has a greater surface area than the source electrode, is merely a slight difference in design.

Moreover, as set forth in Box VIII, the description of this application does not disclose a technical concept wherein configuring the picture electrode to have a

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

greater surface area than the source electrode offers the effect of preventing the penetration of oxygen and moisture to the organic semiconductor layer from the sides of the active layer by passing around the picture electrode.

Therefore the invention set forth in claim 1 is denied an inventive step by documents 1 and 2.

Claim 3

Documents 1 and 2 set forth a feature wherein the surface area of the source electrode and the picture electrode area the same. That is to say, the source electrode is understood to have an area of 25% or more of the picture electrode.

Therefore the invention set forth in claim 3 is denied an inventive step by documents 1 and 2.

Claim 4

The transparent electrodes set forth in documents 1 and 2 are understood to suppress gas permeation of gas and moisture.

Therefore the invention set forth in claim 4 is denied an inventive step by documents 1 and 2.

Claim 5

It is a known means to provide, of two electrodes which sandwich a liquid crystal or organic EL, the electrode on the side which is not connected to a thin-film transistor, to the entire display area.

Therefore the invention set forth in claim 5 is denied an inventive step by documents 1 and 2.

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
	<p>Claim 6</p> <p>The substrate of a display device set forth in documents 1 and 2 suppresses the gas permeation of oxygen and moisture.</p> <p>Therefore the invention set forth in claim 6 is denied an inventive step by documents 1 and 2.</p> <p>Claim 7</p> <p>A flexible substrate would be known to a person skilled in the art, as set forth in documents 3 to 5.</p> <p>Therefore the invention set forth in claim 7 is denied an inventive step by documents 1 to 5.</p> <p>Claim 8</p> <p>The display devices set forth in documents 1 and 2 are organic EL devices.</p> <p>Therefore the invention set forth in claim 8 is denied an inventive step by documents 1 to 5.</p> <p>Claim 9</p> <p>The thin-film transistor set forth in documents 1 and 2 contains an organic semiconductor film.</p> <p>Therefore the invention set forth in claim 9 is denied an inventive step by documents 1 to 5.</p>

**Box No. VIII** Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

With regard to the support by the description of the disclosure "the aforementioned picture electrode has a greater surface area than the aforementioned source electrode", the applicant asserts in the response to the written opinion that this feature is disclosed in paragraphs [0023], [0024], fig. 1B and fig. 3B.

However, paragraphs [0023] and [0024] only indicate that the source electrode is constituted to have a surface area of at least 25% of the picture electrode. In addition, this disclosure includes cases where the surface area of the source electrode is smaller, equal and greater than the surface area of the picture electrode. Moreover, there is no particular disclosure of a feature wherein the surface area of the source electrode is smaller than the surface area of the picture electrode, that is to say, that the surface area of the picture electrode is greater than the surface area of the source electrode. Fig. 1B and fig. 3B are only drawings indicating one embodiment of the source electrode having a size of 25% or more of the surface area of the picture electrode.

Moreover, the description of this application does not disclose a technical concept wherein configuring the picture electrode to have a greater surface area than the source electrode offers the effect of preventing the penetration of oxygen and moisture to the organic semiconductor layer from the sides of the active layer by passing around the picture electrode.